

REMARKS/ARGUMENTS

Claims 1-23 were pending in this application. Within the Office Action, claims 1-23 are rejected under 35 U.S.C. §§ 101 and 112, first paragraph; claims 1-23 are provisionally rejected on the grounds of nonstatutory double patenting; claims 1-13 and 23 are rejected under 35 U.S.C. § 102(e); and claims 14-22 are rejected under 35 U.S.C. § 103(a). By way of the above amendments, claims 1, 6, 11, 14, 15, and 20-23 have all been amended. Accordingly, claims 1-23 are still pending. The Applicants respectfully request reconsideration in light of the amendments made above and the arguments made below.

Rejections under 35 U.S.C. §§ 101 and 112, first paragraph

Within the Office Action, claims 1-23 are rejected under 35 U.S.C. § 101 and § 112, first paragraph. Both rejections are made on the grounds that the term “dedicated mesh,” recited in claims 14 and its dependent claims 15 and 20-22, is not readily understood. As to the rejection under § 101, it is stated that the term “dedicated mesh” is not defined in the Specification and that the Examiner cannot understand what it means. As to the rejection under § 112, first paragraph, it is stated that one skilled in the art would not know how to use the invention, “for the reasons set forth” in the rejection under § 101: The rejection under § 112, first paragraph, is made for the same reason as the rejection under § 101. Thus, any claim amendments or arguments that overcome the rejection under § 101 will also overcome the rejection under § 112, first paragraph.

As to claims 1-13 and 23, the Applicants disagree with their rejections; as to claims 14-22, the Applicants have amended the relevant claims to overcome their rejections.

Claims 1-13 and 23 do not recite “dedicated mesh.” Accordingly, any rejection of these claims on the grounds that “dedicated mesh” is not defined in the Specification is improper and should be withdrawn.

Claim 14 has been amended to replace “dedicated mesh” with the phrase “mesh dedicated exclusively for exchanging routing performance information.” As recognized in the Office Action, a mesh is a well-known network topology; its modifying phrase “dedicated exclusively for exchanging routing performance information” is clearly understood. The entire limitation, slightly modified, is recited in an element of the original claim 11, “a plurality of communication links directly coupling the plurality of routing intelligence units, wherein the plurality of communication links are dedicated exclusively for exchanging routing parameters between the

plurality of routing intelligence units.” Accordingly, the amendment to claim 14 does not contain any new matter.

Claims 15 and 20-22, which all depend on claim 14, have also been amended to replace “dedicated mesh” with “mesh.”

Because none of the claims 14-22 recites “dedicated mesh,” their rejections under both §§101 and 112, first paragraph, should be withdrawn.

Nonstatutory Double Patenting

Within the Office Action, claims 1-23 are provisionally rejected on the ground of nonstatutory double patenting over claims 1-22 of the co-pending patent application serial number 09/923,924. Specifically, it is stated that the present application claims subject matter common to the ‘924 application. The Applicants disagree with this statement and believe that claims in this application, especially after this amendment, do not contain subject matter in common with claims in the ‘924 application.

If the Examiner still believes that the claims in the two applications contain common subject matter, the Applicants ask that this rejection be suspended and only addressed later, after one of the cases is allowed. This application and the ‘924 application are both still being prosecuted, and the claims in both may still be further amended. Later claim amendments in either case may persuade the Examiner to withdraw this rejection.

The Applicants believe that the non-statutory double patenting rejection should be withdrawn because the claims in this application and the ‘924 application do not contain common subject matter. If the Examiner disagrees, the Applicants ask that the rejection be held in abeyance, at least until either case is allowed.

Rejections under 35 U.S.C. § 102(e)

Within the Office Action, claims 1-13 and 23 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,981,055 to Ahuja et al. The Applicants respectfully traverse these rejections.

Ahuja is directed to methods of and systems for optimizing routing traffic to a destination. Specifically, Ahuja discloses how to infer the performance of some routing paths from the performance actually measured for other routing paths. Ahuja discloses a system

destination. Specifically, Ahuja discloses how to infer the performance of some routing paths from the performance actually measured for other routing paths. Ahuja discloses a system having a routing optimization component 104 coupled to Border Gateway Protocol (BGP) bridges 106a and 106b, which in turn are coupled to switches 602a and 602b, which in turn are coupled to core routers 604, 604₂ and border routers 608a and 608b. (Ahuja, Figure 18) The routing optimization component 104 uses a minimization method to determine routing tables (col. 3, lines 21-35) that are sent to the BGP bridges. The BGP bridges then send the routing tables to the routers, which use them to route data. (Col. 3, lines 36-40).

Within the Office Action, the BGP bridges are cited as routing intelligence units of the present invention. At paragraph 6 of the Office Action, col. 17, lines 1-30, of Ahuja is cited as disclosing one element of the routing intelligence unit, “one processes for controlling the distinct subset of networking devices.” Here, Ahuja describes how routing matrices are generated and then goes on to describe the operation of BGP bridges. But the BGP bridges disclosed in Ahuja do not include one or more coordination processes for generating and directly exchanging routing performance information. These BGP bridges receive, but do not generate, routing performance information from an optimization component. Furthermore, as shown in Figure 18 of Ahuja, the BGP bridges do not exchange any information directly, but do so through routers.

Claim 1 is directed to a communications back-channel, for coordinating routing decisions. Claim 1 has been amended to recite, in part, routing intelligence units that include software for controlling a distinct subset of a plurality of networking devices. The routing intelligence units also include one or more processes for controlling the networking devices and one or more coordination processes for generating and directly exchanging routing performance information among the routing intelligence units. As explained above, Ahuja does not disclose any element for generating and directly exchanging routing performance information.

Accordingly, claim 1 is allowable over Ahuja.

Claims 2-13 all depend on claim 1, and accordingly are all allowable as depending on an allowable base claim.

Claim 23, like claim 1, is also directed to a communications back-channel for coordinating routing decisions. The communications back-channel also includes routing intelligence units, which are directly coupled by a mesh. The plurality of routing intelligence units are programmed to exclusively exchange performance information over the mesh.

Ahuja does not disclose any elements programmed to exchange only performance

information over a mesh that couples them. For at least this reason, claim 23 is also allowable over Ahuja.

At paragraph 16 of the Office Action, column 9, lines 39-62, of Ahuja is cited as disclosing communication links “dedicated exclusively for exchanging routing parameters between the a plurality of routing intelligence units.” Ahuja discloses no such thing here. Instead, here, Ahuja merely discloses how to infer latency.

Rejections under 35 U.S.C. § 103(a)

Within the Office Action, claims 14-22 are rejected under 35 U.S.C. § 103(a) as obvious over Ahuja in view of U.S. Patent No. 6,826,613 to Napolitano, Jr., et al. The Applicants respectfully traverse these rejections.

Within the Office Action, is stated that Ahuja, described above, discloses all the elements of claim 14 except “the plurality of decision makers are in communication via a mesh topology or a dedicated mesh.” It is then stated that at column 4, line 60, to column 6, lines 37, Napolitano discloses decision makers and at column 4, lines 25-55, Napolitano discloses communication using a mesh network. The Applicants disagree with this characterization of Napolitano.

Napolitano is directed to an interprocessor communication network for a distributed memory, parallel processor computer. (Napolitano, Abstract) At column 4, lines 25-55, Napolitano merely explains that a mesh is one possible network topology found in the prior art. Napolitano says nothing else about mesh networks. Indeed, Napolitano repeatedly explains that his invention is an m-stage network. At column 4, line 60, to column 6, line 37, Napolitano discloses a network with nodes arranged in m stages, where each node is connected to 4 other nodes. Napolitano does not even mention exchanging routing performance information, let alone doing so using a mesh used exclusively for that purpose.

Claim 14 is directed to a method of exchanging routing performance information among a plurality of decision makers. Each decision maker controls a distinct subset of a plurality of routers, and the plurality of decision makers are in communication using a mesh dedicated to exchanging routing performance information. The method includes asserting a first plurality of preferred routes for a first plurality of prefixes to the subset of routers. Concurrent with asserting the first plurality of preferred routes, a plurality of local performance scores generated from performance measurements for the first plurality of routes are sent to the plurality of decision

makers using the mesh.

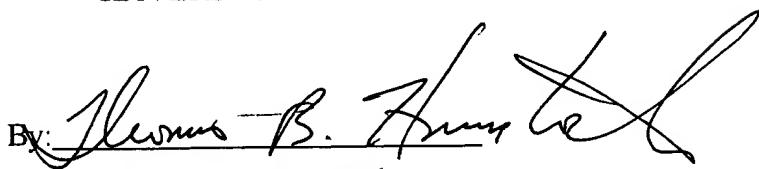
As explained above, neither Ahuja nor Napolitano teaches, suggests, or provides any motivation for using a mesh dedicated to exchanging routing performance information among decision makers, as recited in claim 14. Furthermore, neither Ahuja nor Napolitano discloses concurrently asserting a route and sending local performance scores to decision makers, as also recited in claim 14. At column 16, lines 37-40, cited in the Office Action, Ahuja describes processing matrix elements in parallel: "When optimizing the routing for several source ASes, this invention partitions the routing matrix so that portions can be solved in parallel." **Parallel processing of matrix entries has nothing to do with concurrently asserting a route and sending performance scores as recited in claim 14.** For at least these reasons, claim 14 is allowable over Ahuja, Napolitano, and their combination.

Claims 15-22 all depend on claim 14 and are thus all allowable as depending on an allowable base claim.

CONCLUSION

For the reasons given above, the Applicants respectfully submit that claims 1-23 are in condition for allowance, and allowance at an early date would be appreciated. If the Examiner has any questions or comments, the Examiner is encouraged to call the undersigned at (408) 530-9700 so that any outstanding issues can be quickly and efficiently resolved.

Respectfully submitted,
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CERTIFICATE OF MAILING (37 CFR§ 1.8(a))

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